CLAIMS

1. A data area managing method for an information recording medium, the method is used in an information

5 processor that manages data stored in an information recording area in the information recording medium as a file, wherein

when said information processor accesses to area management information that manages a free area state and

10 link state of the information recording area in said information recording medium,

access size is changed according to processing content in said information processor.

15 2. The data area managing method according to claim 1, wherein

a processing content in said information processor comprises:

a free area retrieval processing for retrieving an

20 free area from said area management information; and

a link destination acquisition processing for acquiring a destination to be linked from said area management information.

25 3. The data area managing method according to claim

2, wherein

as the access size to said area management information,

when the processing content in said information

5 processor is said free area retrieval processing, a first access size determined from physical characteristics of said information recording medium or a size less than the size is used, and

when the processing content in said information

10 processor is said link destination acquisition processing, a second access size that is a minimum access unit of said information recording medium is used.

4. The data area managing method according to claim

15 3, wherein

as the access size to said area management information in said free area retrieval processing,

when access to a location other than a head or end of said area management information is performed, a physical

20 management block size determined from physical characteristics of said information recording medium is used, and

when access to the head or end of said area management information is performed, a size equal to or

25 less than said physical management block size is used.

5. The data area managing method according to claim 4, wherein

as the access size in accessing to the head or end of

5 said area management information is performed, the access

size is a size of said area management information in the

physical management block determined from physical

characteristics of said information recording medium is

used.

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6. The data area managing method according to claim

1, wherein two caches each having a different management

block size are provided as area management information

caches in said information processor, and by using said two

15 caches for each different purposes, said access size is

changed according to the processing content in said

information processor.

7. The data area managing method according to claim

20 6, wherein

a processing content in said information processor

comprises:

a free area retrieval processing for retrieving an

free area from said area management information; and

25 a link destination acquisition processing for

acquiring a destination to be linked from said area

management information.

8. The data area managing method according to claim

5   7, wherein

as an alternative use of said two area management

information caches,

when the processing content in said information

processor is said free area retrieval processing, a

10   physical management block size determined from physical

characteristics of said information recording medium or a

first area management information cache having a size less

than the size is used, and

when the processing content in said information

15   processor is said link destination acquisition processing,

a second area management information cache as minimum

access unit of said information recording medium is used.

9. The data area managing method according to claim

20   8, wherein

as the access size to said area management

information which uses said first area management

information cache,

when access to a location other than a head or end of

25   said area management information is performed, a physical

management block size determined from physical

characteristics of said information recording medium is

used, and

when access to the head or end of said area

5   management information is performed, a size equal to or

less than said physical management block size is used.

10. The data area managing method according to claim

9, wherein

10   when access to the head or end of the area management

information is performed, using said first area management

information cache,

the access size is a size of said area management

information in the physical management block determined

15   from physical characteristics of said information recording

medium.

11. The data area managing method according to claim

8, wherein

20   said second area management information cache is used

only for an exclusive processing of reading, and

said first area management information cache is used

when the information stored in said area management

information is changed.

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12. An information processor which accesses to an information recording medium managing data stored in an information recording area by a file system comprising:

a FAT cache for reading and storing area management

5   information which manages a free state and link state of said information recording area from said information recording medium;

a volatile memory for holding, data including a start address of each block, location of the area management

10 information stored in each block on said information recording medium, size of each block, and presence or absence of update, as FAT cache management information for managing said FAT cache by dividing said FAT cache into a plurality of blocks;

15   a FAT cache controller for referring to and updating said FAT cache management information and controlling a read and change of said area management information to said FAT cache; and

a file system controller for accessing to the area

20 management information through said FAT cache controller and storing data in the information recording medium as a file.

13. The information processor according to claim 12,

25 wherein

said FAT cache has each of one or more blocks of two
types of blocks of a block having the first access size and
a block having the second access size, said first access
size is a physical management block size determined from

5   physical characteristics of said information recording
medium and said second access size is minimum access unit
of said information recording medium.

14.   The information processor according to claim 13,

10   wherein

said FAT cache controller reads data from the
information recording medium and holds them to a block
having the size of the first access size, a size of the
data is the physical management block size determined from

15   physical characteristics of said information recording
medium, when holding the area management information stored
in a location of other than a head or end of said area
management information, and

said FAT cache controller reads data from the

20   information recording medium and holds them, the size of
the data is equal to or less than said physical management
block size, when holding the area management information
stored in a location of the head or end of said area
management information.

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15. The information processor according to claim 13, wherein

said file system controller accesses to:

a block having the first access size included in said

5 FAT cache through said FAT cache controller when free area

retrieval processing for retrieving an free area from said

area management information, and

a block having the second access size included in

said FAT cache through said FAT cache controller when a

10 link destination acquisition processing for acquiring a

destination to be linked from said area management

information.